

WHAT IS CLAIMED IS:

1. A point emission type light emitting element comprising a stripe ridge having an n-type layer, an active layer and a p-type layer that are formed from semiconductors 5 on a substrate, so as to emit light from one end face of the stripe ridge,

wherein the stripe ridge has a protruding portion on the end face and the surface of the light emitting element is covered with an shading film except for the tip of the protruding 10 portion.

2. The point emission type light emitting element according to claim 1;

wherein said n-type layer, said active layer and said p-type layer are made of nitride semiconductor.

15 3. A method for manufacturing a point emission type light emitting element by forming a plurality of elements on a substrate and dividing the substrate into individual elements comprising;

a step of forming the n-type layer, the active layer and 20 the p-type layer on the substrate one on another,

a step of forming stripe ridge so as to form neck portions in correspondence to one end of said each element, said neck portion having narrower width than the other portion,

a step of forming shading films at least on one end face 25 of the stripe ridge and the top surface and both side faces of

the neck portion, and

a step of dividing the elements at the neck portion along a direction perpendicular to the longitudinal direction of the stripe ridge.

5 4. A concentrating point emission light emitting element comprising a stacked semiconductor structure in which an active layer is sandwiched by a p-type semiconductor layer and an n-type semiconductor layer that have band gap larger than that of the active layer to compose double heterojunction
10 structure,

 wherein a light emitting point for emitting a light is located in the surface of the p-type semiconductor layer to compose a surface emission type light emitting element,

15 wherein a pyramidal surface which is located right below the light emitting point and which reflects the light upward or refracts the light is provided in the stacked semiconductor structure,

20 wherein the stacked semiconductor structure is divided into a plurality of light emitting regions located around the pyramidal surface that is at the center, and ridges of smaller width than the light emitting region are formed on the p-type semiconductor layer of said light emitting regions respectively so that light emitted at the light emitting regions is directed toward the pyramidal surface.

25 5. The concentrating point emission light emitting

element according to claim 4,

wherein a plurality of light emitting regions is formed by separating the light emitting regions from each other by etching the borders between adjacent light emitting regions to 5 a depth midway in the n-type semiconductor layer in the stacked semiconductor structure except for the light emitting point and a vicinity thereof, and n-type electrodes are formed on surfaces of the n-type semiconductor layer that has been exposed by etching.

10 6. The concentrating point emission light emitting element according to claim 4,

wherein the pyramidal surface is constituted from a pyramidal cavity that has an apex located in the light emerging direction and is formed in the stacked semiconductor structure.

15 7. The concentrating point emission light emitting element according to claim 4,

wherein the pyramidal surface can also be formed by filling a recess of pyramidal shape, that expands toward the light emerging point and is formed so as to reach at least the 20 n-type semiconductor layer in the stacked semiconductor structure, with a transparent material having a refractive index higher than that of the active layer.

8. The concentrating point emission light emitting element according to claim 4,

25 wherein the pyramidal surface is a conical surface.

9. The concentrating point emission light emitting element according to claim 5,

wherein the pyramidal surface is constituted from a pyramidal cavity that has an apex located in the light emerging 5 direction and is formed in the stacked semiconductor structure.

10. The concentrating point emission light emitting element according to claim 5,

wherein the pyramidal surface can also be formed by filling a recess of pyramidal shape, that expands toward the 10 light emerging point and is formed so as to reach at least the n-type semiconductor layer in the stacked semiconductor structure, with a transparent material having a refractive index higher than that of the active layer.

11. The concentrating point emission light emitting 15 element according to claim 5,

wherein the pyramidal surface is a conical surface.